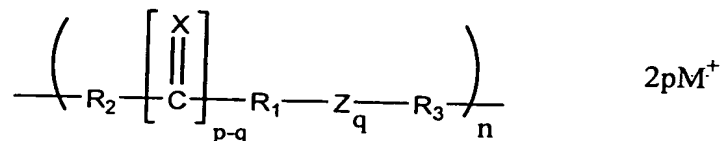


**WHAT IS CLAIMED IS:**

1. A redox compound having at least one state of oxidation state represented by the general formula:



5 wherein

$M^+$  represents an alkaline metallic cation, an alkaline-earth cation, a transition metal cation, a rare earth cation, an organometallic cation, an organic cation of the "nium" type, a repetitive unit of a cationic oxidized conjugated polymer, or a monomeric or polymeric cation optionally having a redox character;

10 X is oxygen, NCN, or  $C(CN)_2$ ;

Z is  $C-Y^-$  or  $N^-$ ;

Y represents oxygen, sulfur, NCN,  $-C(CN)_2$ , with the proviso that when Y is sulfur and  $n \leq 4$ , then X is oxygen;

15  $R_1$  is absent, O, S, NH,  $-(C=C)_r-$ ,  $-(W=W)_r-$  wherein W is independently  $CR^6$  or N; r varies between 1 and 12; and  $R^6$  is H, halogen, CN, or  $C_{1-12}$  alkyl,  $C_{2-12}$  alkenyl or  $C_{6-14}$  aryl optionally having one or more substituents oxa, aza or thia; and wherein 2  $R^6$  groups can be bonded to form a cycle comprising from 3 to 7 members;

$R^2$  and  $R^3$  are the same or different and are absent, a carbonated divalent radical, optionally substituted with aza, oxa or thia;

20 q varies between 0 et p;

p varies between 1 and 5;

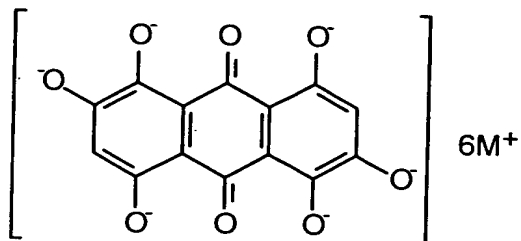
n varies between 1 and  $10^4$ ; and

wherein two of  $R^1$ ,  $R^2$  and  $R^3$  can be bonded together to form a cycle comprising 3 to 7 members.

2. A compound according to claim 1 characterised in that it is:

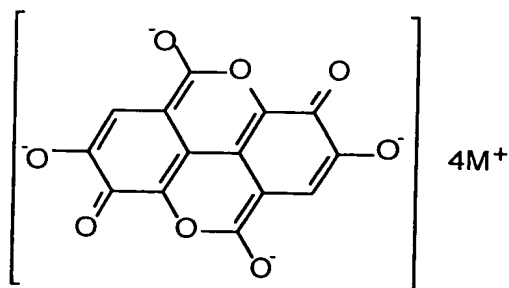
5 - a rhodizonic acid salt;

- a rufigallic acid salt represented by the formula



and its oxidation compounds;

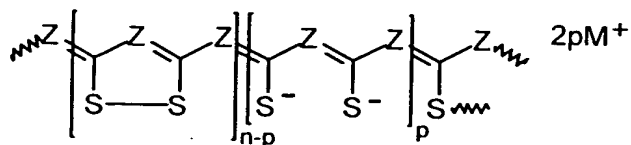
- an elagic acid salt represented by the formula



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and its oxidation compounds, wherein the oxygen atoms with a double bond can be replaced with a group NCN or  $C(CN)_2$ ;

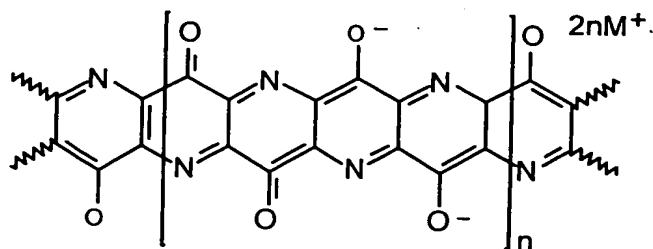
- a polymer of thiocyanic acid or 1-cyano-2-mercaptoacetylene represented by the formula



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and its oxidation and reduction products, wherein  $Z = N$  or  $C-CN$ ;

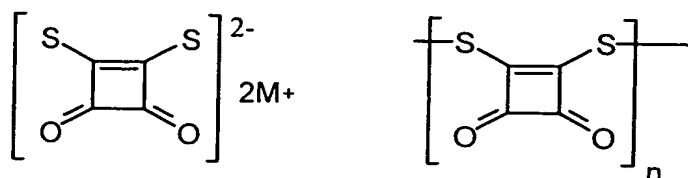
- a polymer containing units derived from keto-pyridine represented by the formula



and its oxidation and reduction products;

- an alternated polymer containing benzoquinone and pyrazine units and their oxidation and reduction products;

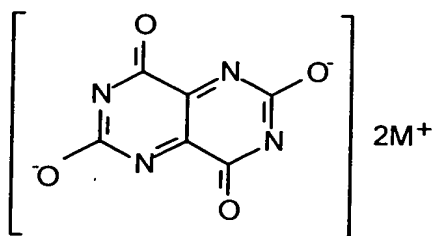
- 5 - a salt of 1,2-dimercaptocyclobutenedione (dithiosquarique) acid and its oxidation compounds, represented by formulae



and their products of oxidation;

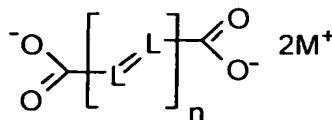
- a salt of 1,5 dihydropyrimido[5,4d]pyrimidine 2,4,6,8(3H,7H)tetrone represented by the

- 10 formula

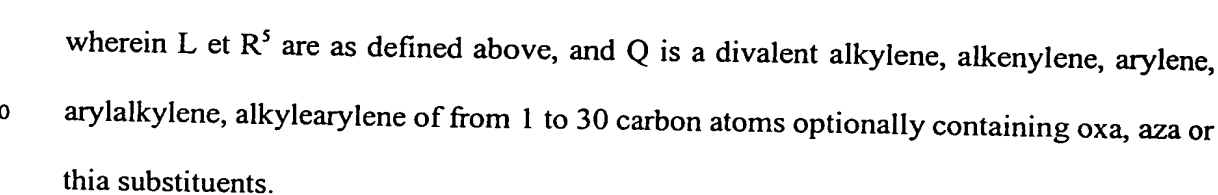


and its oxidation compounds:

- a salt of a dicarboxylic acid comprising groups linked with conjugated segments corresponding to the formula



5      when both  $L$  are  $CR^5$ ;



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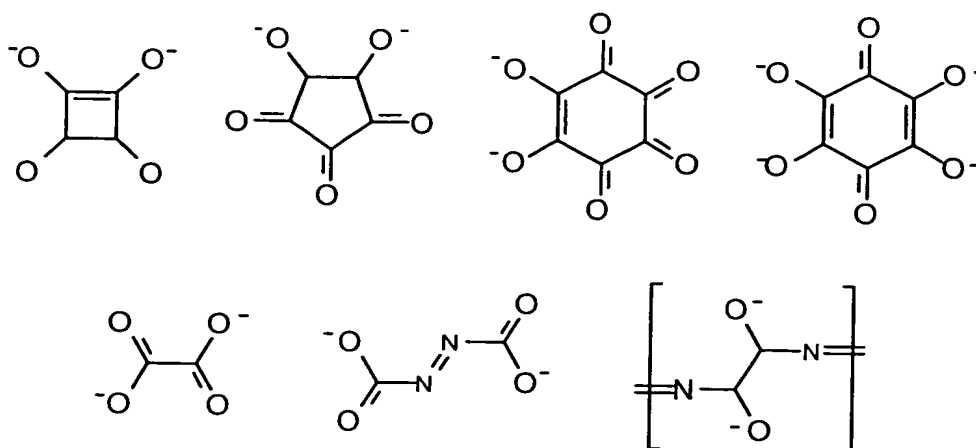
5. A redox electrode material characterized in that it contains, in whole or in part, a compound according to claim 1.

6. A material according to claim 5 characterized in that it further contains at least one electronic conductor and at least one binder.

5 7. A material according to claim 6 wherein the electronic conductor comprises carbon black or graphite powder, and the binder comprises polytetrafluoroethylene, co- or ter-polymer of ethylene, propylene and a diene.

8. A material according to claim 5 characterized in that it can be used as a source  
10 of lithium to compensate for the inherent losses caused by the formation of passivation layers by the electrodes.

9. A material according to claim 8 characterized in that it comprises derivatives corresponding to the following redox anions:



10. An electrical energy storage system of the primary or secondary generator-type or super-capacity, comprising an electrolyte, at least one negative electrode and at least one positive electrode comprising a compound according to claim 1.

11. A system according to claim 10 wherein the alkaline cation is lithium cation.

12. A system according to claim 10 characterized in that the negative electrode is metallic lithium or an alloy thereof, optionally in the form of a nanometric dispersion in lithium oxide; double nitrides of lithium and a transition metal; low potential oxides of  
5 general formula  $\text{Li}_{1+y}\text{Ti}_{2-x/4}\text{O}_4$  wherein x and y vary between 0 et 1; carbon and carbonated products obtained from the pyrolysis of organic materials.

13. A system according to claim 10 wherein the positive electrode comprises a  
10 further electrode material compound selected from oxides and sulfides of transition metals.

14. A system according to claim 10 wherein the electrolyte comprises a polar-type polymer, a polar solvent, or mixtures thereof, and at least one ionic salt.

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15. A system according to claim 14 wherein the polar-type polymer is a polyether, a vinylidene fluoride-based homo- or copolymer, an acrylonitrile-based homo- or copolymer, or a methyl methacrylate-based homo- or copolymer.

20 16. A system according to claim 14 wherein the polar solvent comprises acyclic and cyclic carbonates,  $\gamma$ -butyrolactone, monoalkylamides and dialkylamides, tetraalkylsulfamides, dialkyl ether of mono-, di-, tri- et tetraethylene glycols and oligomers of weight inferiors to 2000 g/mole, and mixtures thereof.